REVIEW

ILLUMINATING TUMOR DIAGNOSIS: A COMPREHENSIVE EXPLORATION OF IMMUNOHISTOCHEMISTRY IN HEAD AND NECK PATHOLOGY

Balla Hyandavi, Uppala Divya, Kotina Sreekanth, Yinti Raviteja

Department of Oral Pathology & Microbiology, GITAM Dental College and Hospital, Visakhapatnam

Running title – Tumour diagnosis and immunohistochemistry

Received: 1-01-2024

Revised: 19-01-2024

Accepted: 26-01-2024

Address for correspondence: Dr Hyandavi Balla, Assistant Professor, Department of Oral Pathology & Microbiology , GITAM Dental College and Hospital, Visakhapatnam, Andhra Pradesh, India

Email ID: hyandaviballa@gmail.com

How to cite this article: Balla H, Uppala D, Kotina S, Yinti R. Illuminating tumor diagnosis: A comprehensive exploration of immunohistochemistry in head and neck pathology. J Oral Biomed Sci 2024; 3(1):22-40

Abstract

Introduction: Immunohistochemistry (IHC) is a valuable tool for diagnosis and characterization of oral tumors for their behavior, origin, and prognosis. This article takes an in-depth look at how immunohistochemistry (IHC) is used to diagnose oral tumors, starting with a simple explanation of how antibodies and antigens interact, and the different types of antibodies involved. It also covers the various labeling methods and techniques used in IHC step-by-step. In addition to that, it gives a brief history of IHC, showing how it has evolved from its early days to becoming an essential tool in modern biomedical research and diagnostics.

Discussion: The article explores the diagnostic utility of different markers within the head and neck region. It highlights the importance of classification and treatment planning facilitated by IHC. The article also addresses the limitations of IHC, including subjective interpretation and the need for standardization and expertise.

Conclusion: The article underscores the pivotal role of IHC in enhancing diagnostic accuracy, understanding tumor behavior, and guiding treatment decisions, especially in the realm of head and neck tumors. By elucidating the principles, methodologies, and clinical applications of IHC, this article serves as a comprehensive resource for researchers, pathologists, and clinicians involved in the diagnosis and management of oral tumors.

Conflict of interest: None

Source of support: Nil